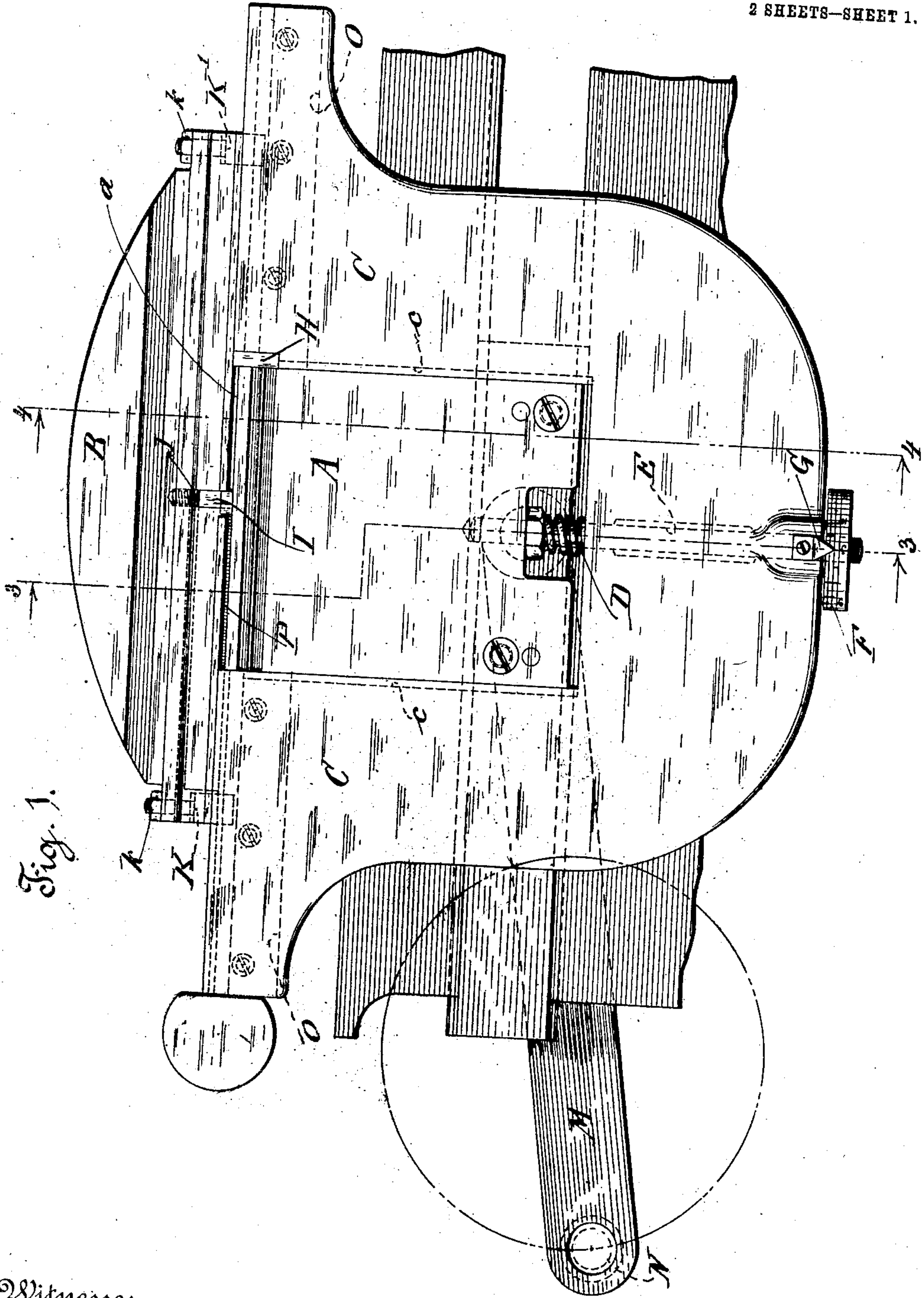


No. 837,837

PATENTED DEC. 4, 1906.

T. S. HOMANS.  
LINOTYPE MACHINE.  
APPLICATION FILED JUNE 30, 1906.

2 SHEETS—SHEET 1.



Witnesses  
L. C. Morrison  
A. M. E. Kennedy

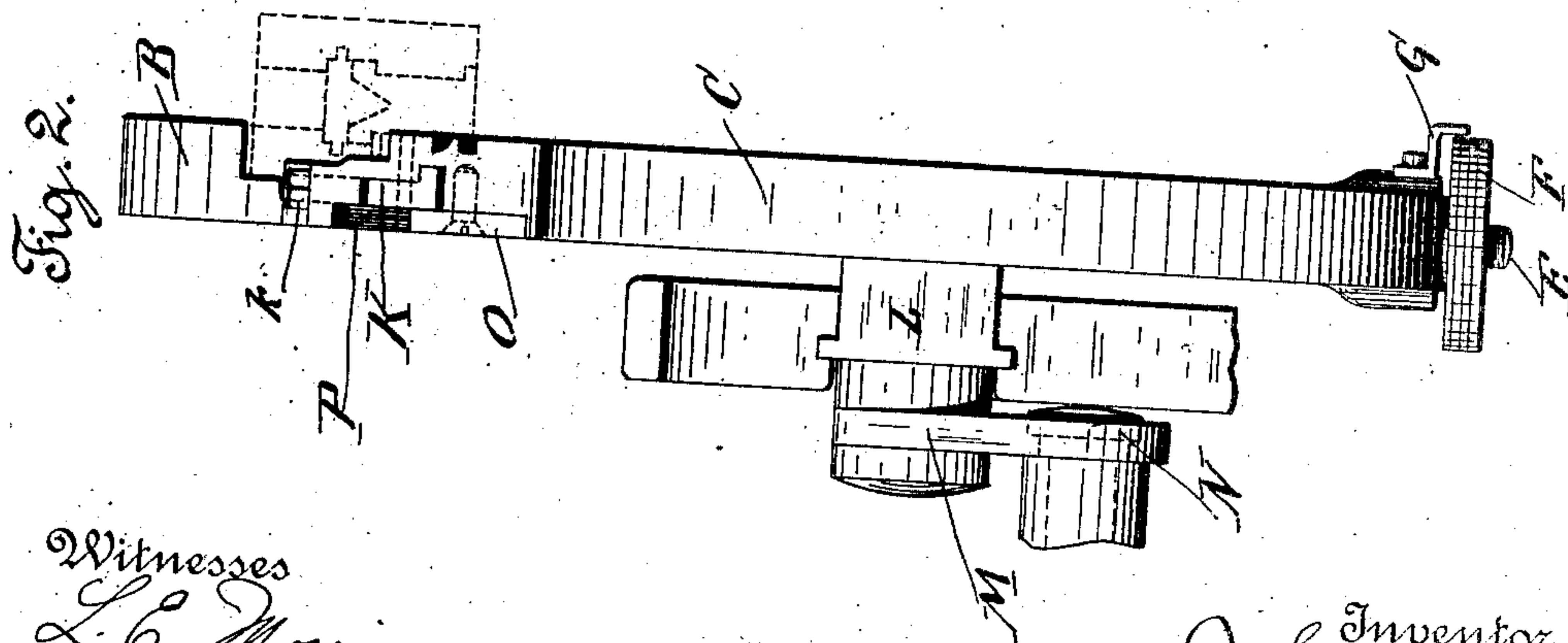
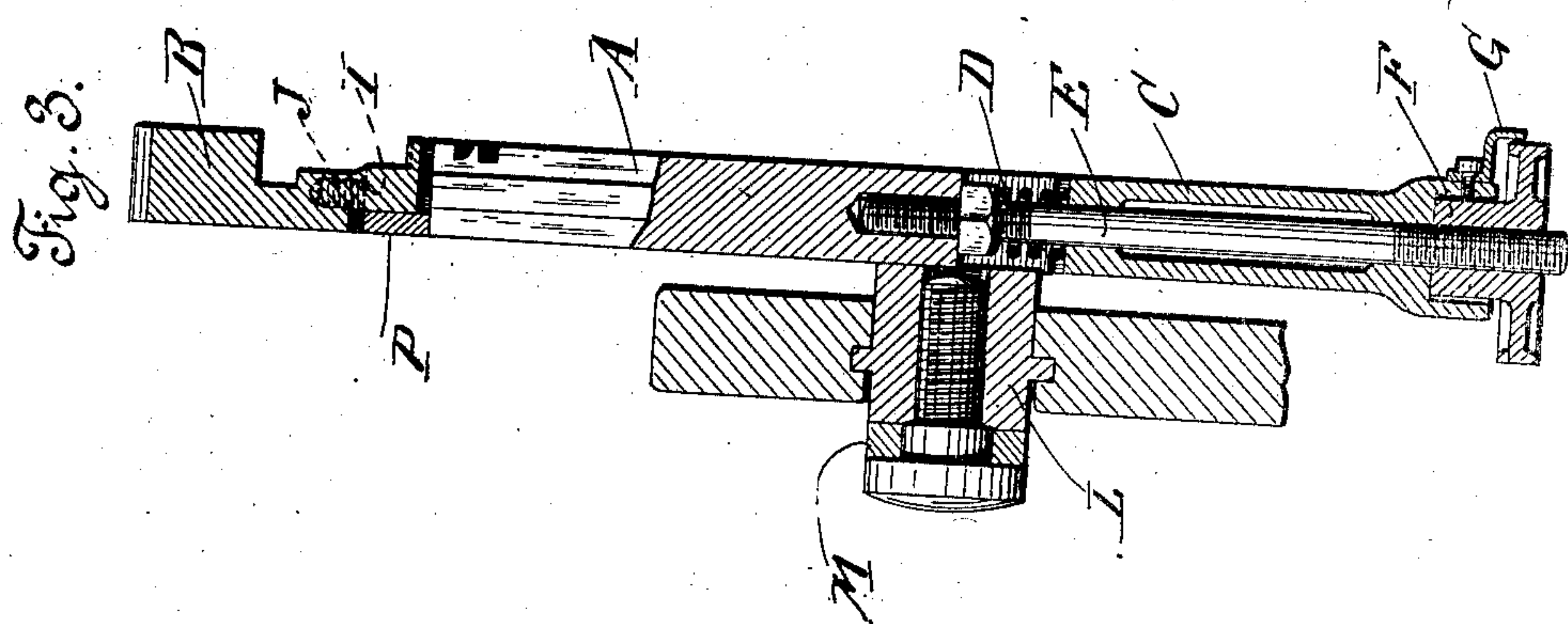
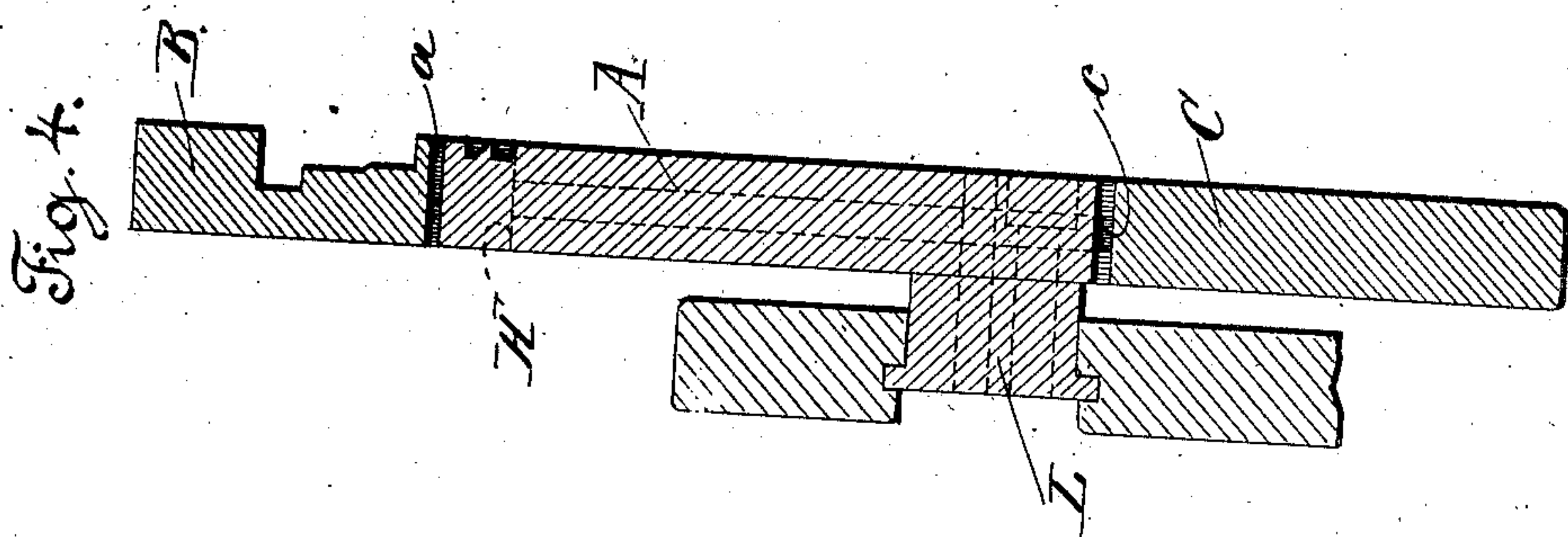
Inventor  
T. S. Homans  
By his Attorney P. T. Dodge

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Inventor  
*T. S. Homans*  
 By his Attorney *P. T. Dodge*



# UNITED STATES PATENT OFFICE.

THOMAS SIMMONS HOMANS, OF BROOKLYN, NEW YORK, ASSIGNOR  
TO MERGENTHALER LINOTYPE COMPANY, A CORPORATION OF  
NEW YORK.

## LINOTYPE-MACHINE.

No. 837,837.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed June 30, 1906. Serial No. 324,123.

*To all whom it may concern:*

Be it known that I, THOMAS SIMMONS HOMANS, of the borough of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Linotype-Machines, of which the following is a specification.

In linotype-machines type-metal slugs or linotypes, each bearing on one edge the type characters to print an entire line, are formed by delivering the molten metal into a slotted mold against a row of matrices temporarily assembled across the front of the mold-slide. In practice it is necessary to provide for frequent change in the length of the slug produced according to the varying length of the lines to be printed and also to provide for frequent change in the thickness of the slug according to the size of the type-face produced.

The aim of my invention is to so construct the mold that it may be quickly adjusted to vary either the length or the thickness of the slug, or both, and this without the removal or insertion of liners or other parts, as practiced with the molds now in general use.

To this end the invention consists in combining with the body portion of the mold a movable cap and movable members forming the walls of the slot in the manner hereinafter described.

In the accompanying drawings, Figure 1 represents a front elevation of a mold constructed in accordance with my invention. Fig. 2 is an end elevation of the same. Figs. 3 and 4 represent cross-sections on the correspondingly-numbered lines of the preceding figures.

Referring to the drawings, *a* represents the mold slot or cell in which the linotype is cast, its rear side being open to admit molten metal and the front side open to permit the presentation of the matrices, as indicated by dotted line in Fig. 2.

*A* represents the body portion of a mold in the form of a rectangular block or plate having a flat upper surface adapted to form the under side of the mold slot or cell.

*B* represents the mold-cap, having a flat under surface opposed to the upper surface of the body in order to form the upper wall of the slot.

*C* represents an adjustable U-shaped frame, serving to carry the cap *B* and main-

tain the same in exact parallelism at the top of the body *A*. This frame *C* straddles or embraces the body *A* and is grooved vertically at *c c* to receive guiding-ribs on the sides of the body, the arrangement being such that the frame *C* and the cap *B* thereon may be raised and lowered in relation to the body *A* in order to change the vertical width of the mold slot or cell *a*.

The frame *C* and cap *B* are urged downward in relation to the body *A* by the intervening spring *D*, which tends to reduce the height of slot *a*.

For the purpose of lifting the frame and cap and increasing the height of the slot any suitable means may be employed; but I recommend, as shown, a threaded rod *E*, extending downward from the body portion and provided at the lower end with a lifting-nut *F*, bearing beneath the frame *C*. This nut is provided with peripheral graduations cooperating with a pointer *G* on the body, so that by turning the nut to the proper graduation the mold-slot may be adjusted to produce a slug or linotype of any standard thickness, as agate, nonpareil, &c., or any intermediate thickness demanded.

The length of the mold-slot is determined by the two hardened metal blocks *H* and *I*, forming its opposite ends. The block *H* is secured to the frame *C* and rises and falls therewith, its upper surface bearing tightly against the under side of the mold-cap, while its left-hand surface bears tightly against the side of the body *A*, spanning at all times the variable space between the body and the cap. The block *I* is seated in a transverse vertical slot in the cap *B* and is urged downward by an overlying spring *J*, so that its surface bears at all times on the upper face of the body *A*.

For the purpose of changing the length of the mold-slot the cap *B* is movable endwise in relation to the body *A*, carrying with it the block *I*. The cap will be secured in its different positions by fastening devices of any suitable character—for example, the two shoes *K K'*, located at its opposite ends. These shoes extend downward and engage at their lower ends in horizontal grooves in the sides of the frame *C*, which are extended as shown, in order to give long bearings. The shoes have threaded necks extended upward through the ends of the cap and provided with nuts *k*.



By tightening these nuts the cap may be drawn downward, so as to bear firmly upon the upper ends of the frame C and so as to insure close contact of the blocks H and I against the cap and the body, respectively.

To effect change in the length of the mold-slot and slug, it is only necessary to adjust the cap B endwise, thereby changing the distance between the ends of blocks H and I. To effect a change in the height of the slot *a* and the thickness of the slug formed therein, it is only necessary to adjust the frame and cap vertically by turning the nut F, this vertical movement of the cap being accompanied by a corresponding vertical movement of the block H, while the block I remains at rest upon the top of the body. By constructing the frame or cap support to embrace the body, as described, I am enabled to guide it with great accuracy and to give firm support to the cap and to thus maintain between the lower surface of the cap and the upper surface of the body that exact parallelism which is necessary.

As a mold constructed on my plan will be larger and of greater weight than those usually employed in linotype-machines, it will be undesirable or impractical to mount my mold on the usual rotary carrier. I therefore propose to mount the mold so that it may be reciprocated to carry the slug from the casting-point to the ejecting-point.

In the drawings, L represents a horizontal slide or bar secured to the body portion A and giving support to the entire mold. This slide is mounted in a suitable guide in the main frame and is connected by a pitman M with a crank-pin N, having an intermittent rotary motion. When the parts stand in the position shown in Fig. 1, the mold is at the casting-point. A half-revolution of the crank carries the mold bodily to the right to the ejecting position, where it remains until the slug has been delivered, after which it returns to the first position.

While I have described herein the body portion as fixed, with the frame and cap movable in relation thereto, it is of course obvious that the frame and cap may be fixed against vertical motion and the body portion mounted for vertical adjustment in relation to the other parts.

It will be observed that the slot is adjusted in length at one end only, the other end being fixed so that when advanced, as it is, always to the same point the slug is sure to be presented in proper relation to the stationary ejecting devices.

The slot or space in back of the frame behind the shoes K K' is filled by plates O. The space outside of or beyond the block or shoulder I is filled by a slide P.

Having described my invention, what I claim is—

1. In a linotype-mold, the combination of

a body portion having a surface to form one side of the mold-slot, a frame having a sliding connection with the body and extended on both sides thereof, a cap having a surface to form the upper side of the mold-slot, said cap supported at its two ends on the frame and adjustable longitudinally thereon, a block to form one end of the mold-slot and movably seated in the cap, and a block secured to the frame to form the opposite end of the mold-cap, and means for holding the movable parts in position, whereby longitudinal and vertical adjustment of the slot may be effected without the application or removal of parts.

2. In a linotype-mold, the U-shaped frame, the cap having opposite ends seated on the respective sides of the frame and adjustable longitudinally thereon, the body portion guided within the frame, the yielding block seated in the cap to form one end of the mold-slot, the block seated in the frame to form the opposite end of the mold-slot, means for securing the cap in different positions, and means for effecting the adjustment between the cap and body.

3. In a linotype-mold, the body A, the frame C embracing the same and having a sliding connection therewith, the cap overlying the body and secured at its ends to the frame by sliding connections, the fixed block H, the yielding spring-actuated block I, a spring connecting the body and frame, and a screw mechanism for effecting their adjustment one in relation to the other.

4. In a linotype-mold, the body A, a frame guided on the body and extending on opposite sides thereof, a cap extending across and beyond the body and united at its ends by sliding connections with the frame, means for closing the ends of the slot between the body and cap, and means for positively adjusting the body and frame one in relation to the other, whereby the height of the slot and the thickness of the slug produced therein may be varied at will.

5. In a linotype-mold, a body portion having a surface to form one wall of the mold-slot, an overlying cap having a surface to form the opposite side of the mold-slot, said cap extended at its two ends beyond the body, and a support for the two ends of the cap, said support having a sliding connection with the body, whereby the cap may be firmly held and accurately guided in order to insure the parallelism of the two sides of the slot.

6. In a linotype-mold, variable in length, a longitudinally-movable cap sustained and guided at its two ends and carrying a relatively movable block which forms one end of the mold-slot.

7. In a linotype-mold, a longitudinally-movable cap provided with a block or shoulder to form one end of the mold-slot and sup-



ported and guided at its two ends on the frame, in combination with a body portion and a frame having a sliding connection with the body portion and also a sliding connection with the cap.

8. In a linotype-mold, a U-shaped frame, a cap seated at its two ends on the frame and adjustable lengthwise thereon, said cap having a shoulder to form one end of the mold-slot, in combination with a body portion seated within the frame, and means for effecting a positive adjustment between the frame and body.

9. In a linotype-mold, in combination, the body portion A having a flat upper surface, the cap B having a flat under surface, and a block or shoulder I, the frame C guided on the two sides of the body and connected to the two ends of the cap, the spring D tending to urge the cap toward the body, the screw E and graduated nut F.

10. The adjustable mold comprising the body portion, the overlying cap portion movable endwise, in combination with the cap-supporting frame having a sliding connection

with the body at right angles to the length of the mold-slot, and means for reciprocating the frame, substantially as described.

11. A mold having its slot adjustable in length from one end, a horizontal mold-supporting guide parallel with the mold-slot, and means for reciprocating the mold bodily between fixed points; whereby the mold may be carried from the casting to the ejecting position and returned with one end always at the same point.

12. A slotted linotype-mold having its slot adjustable in length at one end only, in combination with supporting-guides parallel with the mold-slot, and a crank and pitman for reciprocating the mold.

In testimony whereof I hereunto set my hand, this 21st day of June, 1906, in the presence of two attesting witnesses.

THOMAS SIMMONS HOMANS.

Witnesses:

L. B. MOREHOUSE,  
D. P. WILLIAMS.